

What is claimed is:

1. A storm door mortise lock that prevents lockout, the mortise lock body comprising:
a pair of side plates;
5 a dead bolt assembly installed between the side plates;
a cam rotatably secured between the side plates and in operative interaction with the dead bolt
assembly;
a spring installed between the side plates, in operative interaction with the cam, and biasing the
deadbolt toward either a locked or unlocked position.

10

2. The storm door mortise lock of claim 1 wherein the spring further limits the rotation of
the cam.

3. The storm door mortise lock of claim 1 wherein the cam includes a cam through hole.

15

4. The storm door mortise lock of claim 1 wherein the cam is actuated by a spindle
rotatably secured to a separate key cylinder.

5. The storm door mortise lock of claim 1 wherein the cam is actuated by a spindle
20 rotatably secured to a separate thumb turn button.

6. The storm door mortise lock of claim 1 wherein the deadbolt has a stop to limit the
rotation of the cam.

25

7. The storm door mortise lock of claim 1 wherein the deadbolt and cam are
interconnected.

8. A storm door mortise lock that prevents lockout, the mortise lock body comprising:
a mortise lock body with a plurality of side plates;
a cam rotatably secured between the side plates;
a dead bolt assembly wherein the cam includes a cam body and a cam arm and the cam arm
5 operatively interacts with the dead bolt assembly;
the deadbolt assembly having a stop within to prevent lockout.

9. The storm door mortise lock of claim 8 wherein the cam arm has a finger attached to the
arm and extending into the deadbolt assembly.

10. The storm door mortise lock of claim 9 wherein the deadbolt assembly has a first notch
which permits unobstructed rotation of the cam arm.

11. The storm door mortise lock of claim 10 wherein the first notch is trapezoidal in shape.

12. The storm door mortise lock of claim 10 wherein the deadbolt assembly has a second
notch within the first notch that interacts with the cam finger.

13. The storm door mortise lock of claim 12 wherein the second notch has a closed end that
20 prevents the cam finger from passing and create a lockout situation.

14. The storm door mortise lock of claim 12 wherein the second notch has a lock indent that
is approximately perpendicular to the cam finger when the deadbolt assembly is in a locked
position that prevents unintentional closing of the deadbolt.

15. The storm door mortise lock of claim of claim 12 wherein the second notch has an
unlock indent that is approximately perpendicular to the cam finger when the deadbolt assembly
is in an unlocked position that prevent unintentional opening of the deadbolt.

16. A storm door mortise lock that prevents lockout, the mortise lock body comprising:
a pair of side plates;
a deadbolt assembly mounted intermediate the side plates and sliding between a locked position
and an unlocked position;
5 a rotatable cam intermediate the side plates and having an axis of rotation traverse to the side
plates, the cam includes a cam body and a cam arm; and
a spring intermediate the side plates in operative interaction with the cam to bias the deadbolt to
either a locked position or an unlocked position and to prevent lockout.

10 17. The storm door mortise lock of claim 16 wherein the cam body has a first flat surface
approximately parallel to the spring when in the locked position.

18. The storm door mortise lock of claim 16 wherein the cam body has a second flat surface
approximately parallel to the spring when in the unlocked position.

15

19. A storm door including a mortise lock, the storm door comprising:
a door body having opposite faces and an edge, wherein the edge has a mortise formed therein;
a key cylinder operatively connected to a mortise lock,
the mortise lock inserted into the mortise, the mortise lock having:

20

spaced apart side plates;

a cam having an orifice engaging a first spindle operatively connected to the key
cylinder, the cam being rotatably secured between the side plates and having a
cam body and a cam arm;

a dead bolt assembly mounted intermediate the side plates to operatively interact with
25 the dead bolt being moveable between a locked position and an unlocked
position, the dead bolt having a stop within; and

a live bolt slidably mounted intermediate the side plates and actuated between an
extended and retracted position;

a handle on each face of the door; and

30

a second spindle extending from one handle through the door to the other handle wherein the
spindle actuates the live bolt.

20. The storm door of claim 19 wherein the cam arm has a finger attached to the arm and extending into the deadbolt assembly.

5 21. The storm door of claim 20 wherein the deadbolt assembly has a first notch which permits unobstructed rotation of the cam arm.

22. The storm door of claim 21 wherein the first notch is trapezoidal in shape.

10 23. The storm door of claim 21 wherein the deadbolt assembly has a second notch within the first notch that interacts with the cam finger.

24. The storm door of claim 23 wherein the second notch has a closed end that prevents the cam finger from passing and create a lockout situation.

15

25. The storm door of claim 23 wherein the second notch has a lock indent that is approximately perpendicular to the cam finger when the deadbolt assembly is in locked position that prevents unintentional closing of the deadbolt.

20 26. The storm door of claim 23 wherein the second notch has an unlock indent that is approximately perpendicular to the cam finger when the deadbolt assembly is in an unlocked position that prevent unintentional opening of the deadbolt.

25 27. The storm door of claim 19 further comprising a first and second escutcheon plates, a spindle between the first and second escutcheon plates, the key cylinder operatively linked to the spindle, and a thumb turn operatively linked to the key cylinder by the spindle.

28. The storm door of claim 27 wherein the key cylinder, cam and thumb turn are operatively linked so that the length of the spindle can be altered to allow the lock to be placed
30 in a door body of varying thickness.

29. The storm door of claim 28 wherein the spindle is operatively linked to the cam by fitting through a hole in the cam.

30. A storm door including a mortise lock, the storm door comprising:

5 a door body having opposite faces and an edge, wherein the edge has a mortise formed therein;
a key cylinder operatively connected to a mortise lock,
the mortise lock inserted into the mortise, the mortise lock having:

spaced apart side plates;

a cam having an orifice engaging a first spindle operatively connected to the key

10 cylinder, the cam being rotatably secured between the side plates and including
having a cam body and a cam arm;

a dead bolt assembly mounted intermediate the side plates to operatively interact with
the dead bolt being moveable between a locked position and an unlocked
position, the dead bolt having a notch within;

15 a live bolt slidably mounted intermediate the side plates and actuated between an
extended and retracted position;

a handle on each face of the door; and

a second spindle extending from one handle through the door to the other handle wherein the
spindle actuates the live bolt.

20

31. The storm door of claim 19 wherein the cam arm has a finger attached to the arm and
extending into the deadbolt assembly.

32. The storm door of claim 31 wherein the notch has a first portion which permits rotation
25 of the cam arm.

33. The storm door of claim 32 wherein the first portion is trapezoidal in shape.

34. The storm door of claim 31 wherein the notch has a second portion that interacts with
30 the cam finger.

35. The storm door of claim 34 wherein the second portion has a closed end that prevents the cam finger from passing and creating a lockout situation.

5 36. The storm door of claim 35 wherein the second portion has a lock indent that is approximately perpendicular to the cam finger when the deadbolt assembly is in locked position.

10 37. The storm door of claim 35 wherein the second portion has an unlock indent that is approximately perpendicular to the cam finger when the deadbolt assembly is in an unlocked position.

15 38. The storm door of claim 30 further comprising a first and second escutcheon plates, a spindle between the first and second escutcheon plates, the key cylinder operatively linked to the spindle, and a thumb turn operatively linked to the key cylinder by the spindle.

39. The storm door of claim 38 wherein the key cylinder, cam and thumb turn are operatively linked so that the length of the spindle can be altered to allow the lock to be placed in a door body of varying thickness.

20 40. The storm door of claim 39 wherein the spindle is operatively linked to the cam by fitting through a hole in the cam.